



November 8, 1996

Plant Reclamation  
912 Harbor Way South  
Richmond, California 94804

Attention: Mr. Fred Glueck

**Subject: Results of Pipeline Investigation  
Former American National Can Company Facility/Super Kmart  
Oakland, California**

Dear Fred:

This letter report has been prepared by PES Environmental, Inc. ("PES") to present the results of field investigations regarding the existence and condition of a former fire suppression water pipeline located at the former American National Can Company ("ANC") Oakland, California facility (Plate 1).

### **BACKGROUND INFORMATION**

ANC formerly operated a can manufacturing factory at the site. In early 1994, the property was sold with the intention of demolishing the manufacturing facility and redeveloping the property for new retail use. PES understands that Plant Reclamation was hired by High Street Associates, the project developer, to demolish the ANC facilities. We also understand demolition was completed in September 1994.

In 1995, Kmart Corporation constructed a Super Kmart store on the site. The store opened for business in November 1995. Also at that time, McDonald's Corporation constructed a new restaurant on a portion of the former ANC site located along Alameda Avenue.

The subject site is adjacent to a former oil recycling facility known as "4200 Alameda Avenue" or the "former Ekotek Lube" facility. Environmental investigations performed by ANC's consultants, including RUST Environment and Infrastructure ("RUST"), and subsequently by Erler & Kalinowski, Inc. ("EKI"), the consultant for the former Ekotek Lube property, have shown the existence of a persistent groundwater mound. The mound lies beneath the former Ekotek Lube facility but extends onto the subject property as well. The results of investigations indicate the mound has affected the distribution of chemicals in the subsurface.

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SECTION 1

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The objectives of the PES investigations described herein were to: (1) investigate whether segments of a 10-inch cast iron water supply pipeline, which supplied water to hydrants and other fire-suppression systems at the former ANC facility, are still present, and (2) determine whether leaks in the remaining pipeline segments contribute to the groundwater mound. EKI has raised concerns regarding the presence of the pipeline and its possible contribution to the groundwater mound.

### UTILITY SURVEY

On October 8 and 11, 1996, PES and ForeSite performed utility surveys to document the existence and location of suspected remaining segments of the fire suppression piping and identify other subsurface utilities. The geophysical technique known as electromagnetic field induction was used. The technique involves the use of electronic instrumentation that produce and receive electromagnetic fields. The presence of buried metal objects disrupt the induced field and the objects are then detected. The depth of the buried object and the distribution of the object, if it is a feature such as a pipeline, are also determined. The instruments used at this site included a Radiodetection RD-433 transmitter, Radiodetection RD-432 receiver, and a Fisher TW-6 reflective induction magnetometer.

Attached as Plate 2 is a portion of a historical map<sup>(1)</sup> showing the historical alignment of the pipeline around the southern perimeter of the site. The utility survey focused on the southern boundary of the subject property based on discussions with Plant Reclamation and plans of the fire suppression piping for the former ANC facility. Plate 2 also shows the location, along East 8th Street, where the fire suppression pipeline was connected to the municipal water supply system.

The results of the fire suppression pipeline survey are indicated on the attached historical map. Sections of the pipeline have been color coded to indicate: (1) pipeline sections apparently present as indicated by the utility locating methods (highlighted in blue); (2) pipeline sections apparently absent as indicated by the utility locating methods (highlighted in green); and (3) inconclusive as to the presence or absence of the piping sections due to interferences or other limitations of the utility locating equipment and methods (highlighted in pink).

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<sup>(1)</sup> Drawing A04-2061, dated September 28, 1983 (revised March 6, 1984) prepared by Kemper Insurance Companies.

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The utility survey results indicated:

1. Segments of the fire suppression pipeline appear to remain in place;
2. Interferences and other limitations of the utility locating equipment precluded reliable determination of the existence of other segments, including the pipe segment located along the property line shared by the subject site and the former Ekotek Lube property; and
3. Segments of the pipeline have been removed. The removed segments isolate the existing pipeline segments from the municipal water supply source. *how so?*

### SUBSURFACE INVESTIGATION

On October 23, 1996, PES and Plant Reclamation exposed the fire suppression piping at the location identified on Plate 2. Using hand tools and a small backhoe attachment to a Bobcat (see Photograph 1, Plate 3), soil was excavated to a depth of approximately 4.5 feet below ground surface ("bgs"). Excavation spoils were stockpiled adjacent to the excavation on plastic tarping (Photograph 2, Plate 3). At 4.5 feet bgs, a cast iron pipe measuring 10 inches in diameter was exposed. The piping material and size were consistent with the fire suppression piping identified on the plans.

A hole was drilled into the top of the pipeline using a 1/16 inch diameter drill bit. Upon withdrawing the drill bit from the pipeline a small stream of water measuring 7 inches high began flowing from the hole (Photograph 3, Plate 4). Field observations indicated that the low pressure stream was caused by water in sections of the pipeline at a higher elevation (i.e., 7 inches) than the exposed section.

To verify there was no continuing source of water to the exposed pipe section, water in the pipeline was removed to lower the level to below the top of the pipe and the level was observed. To accomplish this, the hole size was increased using a 5/8-inch drill bit. A hose attached to a pump was inserted into the opening and water was pumped from the pipeline. The water discharged from the pump was clear.

Following pumping, the water level in the section of exposed pipeline was measured through the opening. The water level in the pipeline was approximately 1-inch below the top of the pipe (Photograph 4, Plate 4). Fifteen minutes later, a second water-level measurement was performed. There was no perceptible change of the water-level elevation within the pipeline, indicating there were no inflows into the pipe from a water source. The pipeline was then tapped and plugged and the excavation was backfilled using the excavation spoils.

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## DISCUSSION AND CONCLUSIONS

The 7-inch stream of water which was observed flowing from the hole drilled into the pipe indicated the water was under approximately 7 inches of hydraulic head (not accounting for minor head losses in the pipeline or from the stream exiting the hole), which is equivalent to a water pressure of approximately 0.25 pounds per square inch (psi). This hydraulic head is not consistent with a pipe connected to a pressurized municipal water line which would be under a hydraulic head of 60 to 80 psi. The low pressure observed in the pipeline is consistent with a hydraulic head produced by water-filled pipeline sections being at a greater elevation than the exposed section of pipeline.

The existence of water under pressure being contained in the pipeline section indicates that the pipe is in good condition, with no leaks in the vicinity of the mound.

Based on what appeared to be a static water level in the pipeline following pumping, PES concludes the initial 7-inch stream which flowed from the pipe was water which remained in the pipe prior to abandonment and was under a low hydraulic pressure head produced from the upgradient portion of the pipe being at a slightly higher elevation. This conclusion is further supported by the results of the utility survey which indicates the pipeline is isolated with no connection to a pressurized municipal water line. Residual water remaining in the pipeline is inconsequential due to the absence of pipeline leaks in the vicinity of the mound and the relatively small volume. *low?*

In summary, sections of the former fire suppression pipeline have been removed and other sections remain. All indications are that remaining pipe sections are not connected to the municipal water supply and have not contributed to the groundwater mound. *uncertainty exists*

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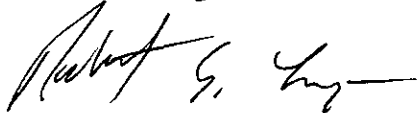
We trust this information meets your needs at this time. If you have any questions, please call.

Very truly yours,

**PES ENVIRONMENTAL, INC.**



Donald J. Seymour  
Senior Staff Engineer



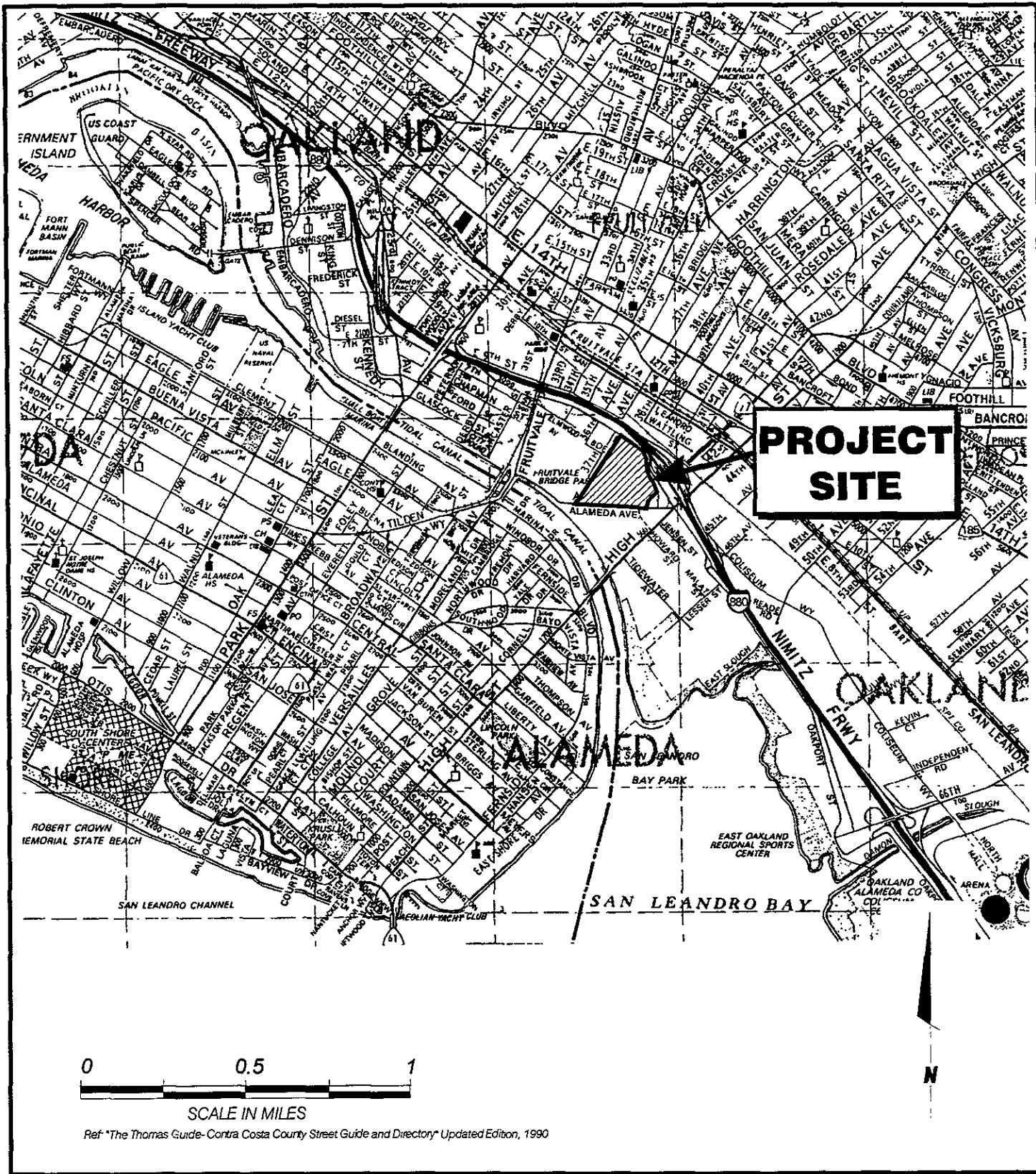
Robert S. Creps, P.E.  
Principal Engineer



Attachments: Plate 1 - Site Location Map  
Plate 2 - Historical Site Map  
Plate 3 - Photographs 1 and 2  
Plate 4 - Photographs 3 and 4

cc: Jim Kessler, The Martin Group  
David Bruegel, Esq., Dickinson, Wright, Moon, Van Dusen & Freeman  
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Barney Chan, Alameda County Health Agency, Dept. of Environmental Health  
Steve Morse, California RWQCB - San Francisco Bay Region  
Sumadhu Arigala, California RWQCB - San Francisco Bay Region

**PLATES**



**PES Environmental, Inc.**  
Engineering & Environmental Services

**Site Location Map**  
Utility Survey / Fire Suppression  
Pipeline Investigation  
Former ANC / Super Kmart Center  
Oakland, California

PLATE

**1**

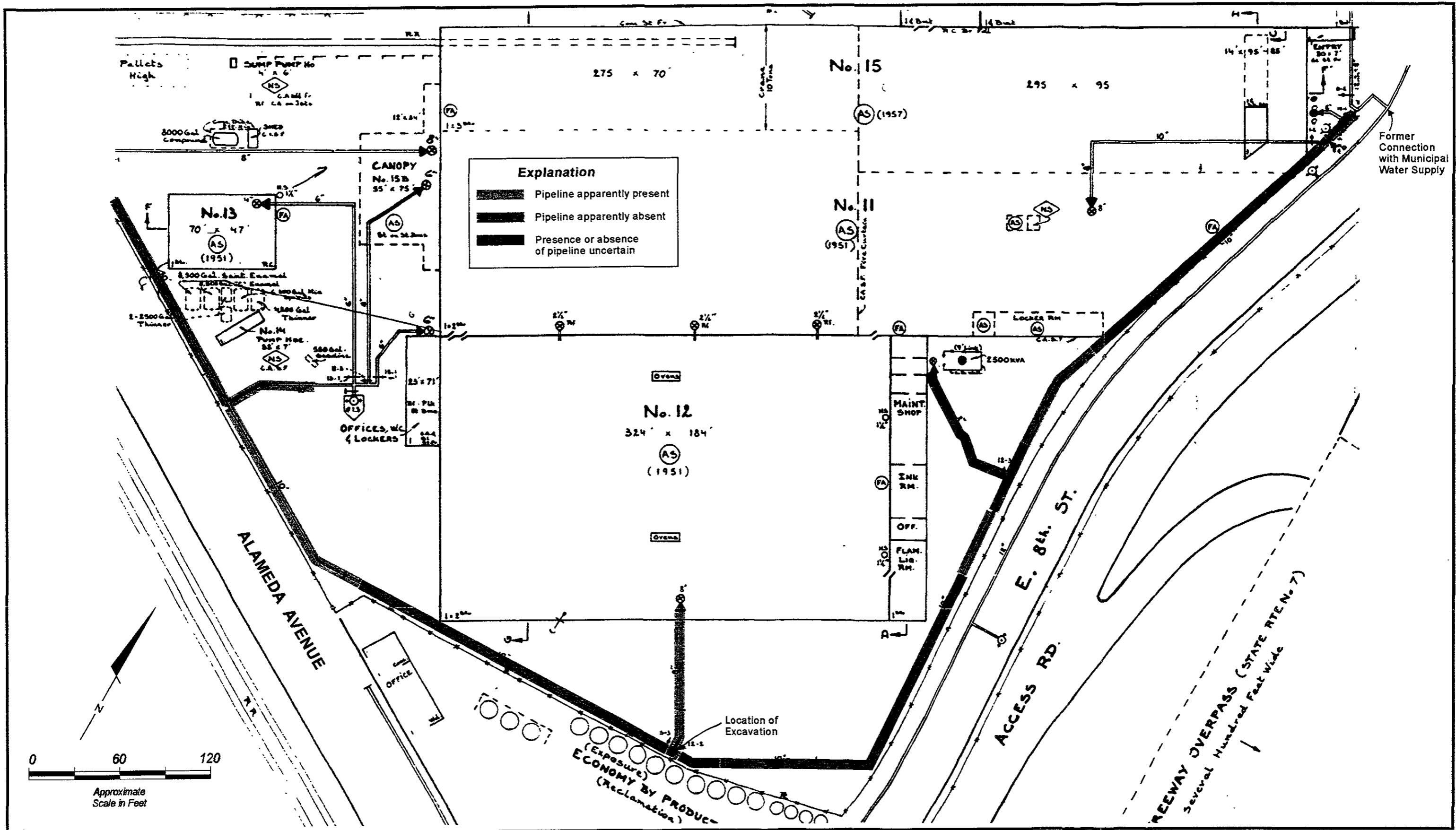






Photo 1. View of excavation activities south of parking area.



Photo 2. View of limits of excavation.



**PES Environmental, Inc.**  
Engineering & Environmental Services

**Site Photographs**  
Utility Survey / Fire Suppression  
Pipeline Investigation  
Former ANC / Super Kmart Center  
Oakland, California

PLATE

**3**

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Photo 3. View of fire suppression pipeline and seven inch stream of water flowing from hole.

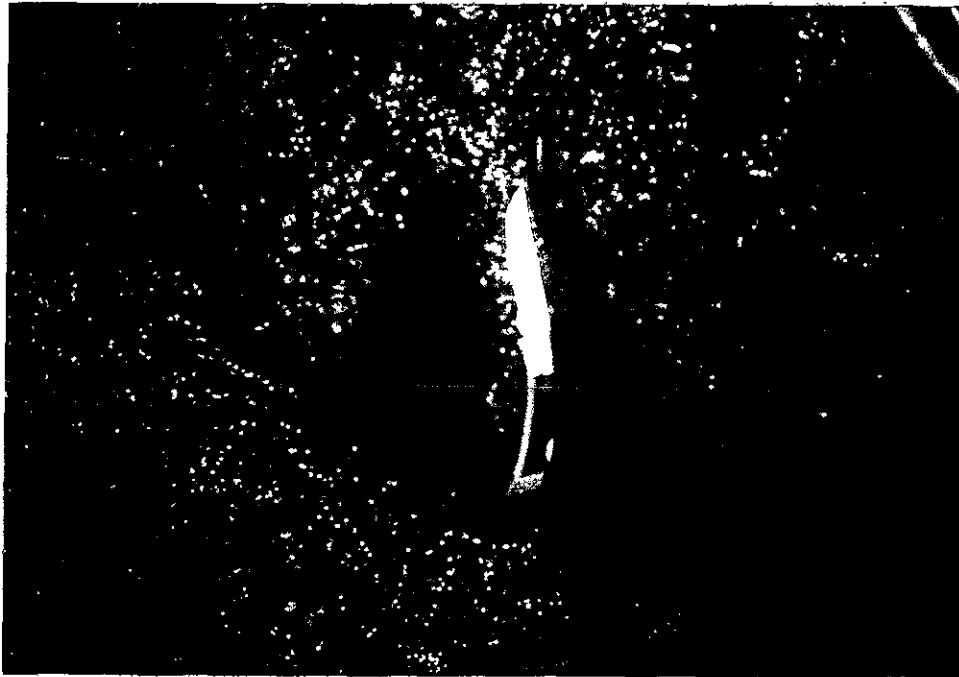


Photo 4. View of hole in fire suppression pipeline following pumping.



**PES Environmental, Inc.**  
Engineering & Environmental Services

**Site Photographs**  
Utility Survey / Fire Suppression  
Pipeline Investigation  
Former ANC / Super Kmart Center  
Oakland, California

PLATE

**4**

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